

Chapter 5

Blue Signal Protection of Workmen Part 218

Introduction

The minimum requirements for **Blue Signal Protection of Workmen** are prescribed in 49 CFR Part 218, Subpart B. This Subpart requires railroads take certain measures to protect their employees when engaged in inspection, testing, repair, and servicing of rolling equipment. It is designed to reduce the number of serious accidents resulting from human factors. A railroad may prescribe additional and/or more stringent requirements than those found in this regulation.



Blue Signal Sign attached to snow covered track in a trainyard

On the following pages you will find the sections of the regulation that have interpretive guidance and related information to aid the Inspector in the performance of blue signal inspections. After each section of the regulation is an interpretation or policy as established by the agency.

Reports of blue signal inspections are to be made on the Inspection Report, F6180.96. Violations are to be submitted on Form F6180.67.

On some occasions, it may be necessary to devote a major portion of the inspection day to conducting blue signal observations; however, in most instances, Inspectors should incorporate blue signal inspections with their routine inspection activities. For example, during a locomotive inspection at a locomotive repair facility, observations of that facility's blue signal protection would be appropriate.

Before conducting any blue signal inspections, you will need knowledge of any permissible alternative methods of providing the required protection. For instance, using the above example, it is the railroad's option whether to use the procedures listed in §218.27 or in §218.29 to protect a locomotive servicing track area. And finally, before entering a particular location, be aware of any waivers of the regulations applicable to that location.

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Remember, it is the railroad's obligation to provide blue signal protection. Inspectors shall not order railroad personnel to stop working, nor should the Inspector establish blue signal protection. It is the Inspector's responsibility to monitor that blue signal protection is being applied correctly. If not, the Inspector must take appropriate enforcement action with the railroad to correct the situation. Non-compliance with blue signal regulations is serious and can lead to injury or death.

Regulation:

§218.1 Purpose.

This part prescribes minimum requirements for railroad operating rules and practices. Each railroad may prescribe additional or more stringent requirements in its operating rules, timetables, timetable special instructions, and other special instructions.

§218.3 Application.

(a) Except as provided in paragraph (b) of this section, this part applies to railroads that operate rolling equipment on standard gage track which is part of the general railroad system of transportation.

(b) This part does not apply to --

(1) A railroad that operates only on track inside an installation which is not part of the general railroad system of transportation, or

(2) Rapid transit operations in an urban area that are not connected with the general railroad system of transportation.

Guidance:

Blue Signal regulations apply only to railroads that operate rolling equipment on standard gage track which is part of the general railroad system of transportation. It **does not** apply to a railroad that operates only on tracks inside an installation which is not part of the general railroad system, or a railroad that operates only on tracks used exclusively for rapid transit, commuter, or other short haul passenger service in a metropolitan or suburban area. However, if a **railroad employee** is working on, under or between rolling equipment on a track located inside an industry or plant served by a railroad, blue signal protection must be established. It does not apply to contractors, even if they are working on rolling equipment on standard gage track which is part of the general railroad system of transportation.

Regulation:

§218.5 Definitions.

Absolute block means a block in which no train is permitted to enter while it is occupied by another train.

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Blue signal means a clearly distinguishable blue flag or blue light by day and a blue light at night. When attached to the operating controls of a locomotive, it need not be lighted if the inside of the cab area of the locomotive is sufficiently lighted so as to make the blue signal clearly distinguishable.

Camp car means any on-track vehicle, including outfit, camp, or bunk cars or modular homes mounted on flat cars used to house rail employees. It does not include wreck trains.

Car shop repair track area means one or more tracks within an area in which the testing, servicing, repair, inspection, or rebuilding of railroad rolling equipment is under the exclusive control of mechanical department personnel.

Controlling Locomotive means a locomotive arranged as having the only controls over all electrical, mechanical and pneumatic functions for one or more locomotives, including controls transmitted by radio signals if so equipped. It does not include two or more locomotives coupled in multiple which can be moved from more than one set of locomotive controls.

Designated crew member means an individual designated under the railroad's operating rules as the point of contact between a train or yard crew and a utility employee working with that crew.

Effective locking device when used in relation to a manually operated switch or a derail means one which is:

- (1) Vandal resistant;
- (2) Tamper resistant; and
- (3) Capable of being locked and unlocked only by the class, craft or group of employees for whom the protection is being provided.

Group of workers means two or more workers of the same or different crafts assigned to work together as a unit under a common authority and who are in communication with each other while the work is being done.

Locomotive means a self-propelled unit of equipment designed for moving other railroad rolling equipment in revenue service including a self-propelled unit designed to carry freight or passenger traffic, or both, and may consist of one or more units operated from a single control.

Locomotive servicing track area means one or more tracks, within an area in which the testing, servicing, repair, inspection, or rebuilding of locomotives is under the exclusive control of mechanical department personnel.

Main track means a track, other than an auxiliary track, extending through yards or between stations, upon which trains are operated by timetable or train order or both, or the use of which is governed by a signal system.

Rolling equipment includes locomotives, railroad cars, and one or more locomotives coupled to one or more cars.

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Switch providing access means a switch which if traversed by rolling equipment could permit that rolling equipment to couple to the equipment being protected.

Train or yard crew means one or more railroad employees assigned a controlling locomotive, under the charge and control of one crew member; called to perform service covered by Section 2 of the Hours of Service Act; involved with the train or yard movement of railroad rolling equipment they are to work with as an operating crew; reporting and working together as a unit that remains in close contact if more than one employee; and subject to the railroad operating rules and program of operational tests and inspections required in §§217.9 and 217.11 of this chapter.

Utility employee means a railroad employee assigned to and functioning as a temporary member of a train or yard crew whose primary function is to assist the train or yard crew in the assembly, disassembly or classification of rail cars, or operation of trains (subject to the conditions set forth in §218.22 of this chapter).

Worker means any railroad employee assigned to inspect, test, repair, or service railroad rolling equipment, or their components, including brake systems. Members of train and yard crews are excluded except when assigned such work on railroad rolling equipment that is not part of the train or yard movement they have been called to operate (or been assigned to as "utility employees"). Utility employees assigned to and functioning as temporary members of a specific train or yard crew (subject to the conditions set forth in §218.22 of this chapter), are excluded only when so assigned and functioning.

Note: Servicing does not include supplying cabooses, locomotives, or passenger cars with items such as ice, drinking water, tools, sanitary supplies, stationery, or flagging equipment. Testing does not include (i) visual observations made by an employee positioned on or alongside a caboose, locomotive, or passenger car; or (ii) marker inspections made in accordance with the provisions of §221.16(b) of this chapter.

Guidance:

Blue signal means a clearly distinguishable blue flag, blue sign, or blue light. The effectiveness of the blue signal is dependent upon the device being clearly distinguishable to the operator in control of the movement of rolling equipment; therefore, compliance must be evaluated with this in mind. A badly deteriorated blue signal or one which is covered with oil or dirt, can not be considered to be in compliance. A blue light with a weak battery, broken lens, and/or a blue signal which is obviously inadequate in size or intensity and cannot be clearly distinguishable, is not in compliance with the requirements of the regulation. A blue signal used at night must be illuminated, unless an unlighted device is attached to the controls of a locomotive and the cab of the locomotive is adequately lighted so as to make the blue signal **clearly distinguishable**. The law allows a blue light to be used by day, but the Inspector should determine that it is **clearly distinguishable** by either its size or intensity. Inspectors should also look at the intensity of lights at night. If a

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floodlight washes out the effectiveness of a blue light, an exception should be taken. Small lights that are designed to be used in the cab of a locomotive, should not be used in the gage of the track unless the intensity of the light makes it clearly distinguishable to the operator in control of rolling equipment.

Car shop repair track area means one or more tracks within an area in which the testing, servicing, repair, inspection, or rebuilding of railroad rolling equipment is under the exclusive control of the mechanical department personnel. It includes heavy repair tracks located within buildings, as well as tracks where total erecting or rebuilding of the rolling equipment occurs.

Controlling Locomotive means the locomotive that is controlling from its cab the propulsion system, sanders, and power brake system of each locomotive that is pneumatically, electrically, and mechanically connected together in a consist. Electrically can be either by a jumper cable or by a radio signal. Mechanically connected means that the locomotive units are physically coupled together. Pneumatically means the appropriate air hoses that control the operation of the brakes are connected and cut-in.

Effective locking device means a device that can be locked and unlocked only by the class, craft, or group of workmen performing work on the rolling equipment. It must be of substantial construction or technically designed so that it is vandal resistant and tamper resistant. A rail clamp or switch point blocking device that cannot be locked does not comply with the requirements of this regulation. Train and yard crews should not be able to unlock switches or derails protecting workmen, unless they are the group of workers performing work or tasks that requires blue signal protection. If train or yard crews need to apply blue signal protection, a standard operating department switch lock will not satisfy the requirements of this regulation. An “other than standard” switch lock can be used, as long as other train and yard crews cannot unlock it. A remotely controlled switch has to have a plug, key, or cover properly applied to the control panel which immobilizes the switch control lever that is being secured to establish protection. It must be applied in such a manner that the control lever cannot be thrown for the route into the protected track, without first removing the device. A written tag alone, attached to the button or lever does not comply. Any remotely-controlled switch that can be over-ridden in the field by use of a manual lever, without establishing prior authority and taking that switch out of power, has to be treated as a manual switch and effectively locked in the field. Inspectors should physically examine and test the locking device to ensure the lock functions as intended.

Group of workers means two or more railroad employees from the same or different crafts that are assigned to work together as unit or group under a common authority (such as a lead man, roundhouse foreman, or car shop foreman) and that all members of the group are in some form of communication with each other while the work is being performed.

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Locomotive means a self-propelled on-track piece of equipment designed for moving revenue freight and passengers over the railroad. It may be a traditional locomotive powered by electricity, diesel-electric, turbine, or steam. It could also be in the form of a self-propelled highway-rail vehicle used in revenue service. Based upon the definition as written for this regulation, an MU car would be a locomotive, but a control-cab of a suburban push-pull passenger train operation would not, unless a locomotive were attached to it and the controls of the control-cab were cut in.

Locomotive servicing track area means one or more tracks within an area that is under exclusive control of mechanical department personnel. It includes tracks known as the “back shops” and tracks within the area which are located inside of buildings where major overhauling or rebuilding of locomotives occurs. Access to/from and within the protected area would have to come from the mechanical department personnel in charge of that area.

Main track has been used in railroad operating rule books for many years and should have a common meaning throughout the industry to the extent that there should be no mistaking it from tracks commonly known by such other defined terms as “yard tracks” or “siding” in judging compliance with this regulation. The fact that the authority for movement on a track is Rule 93, “Yard limits” rule, has no bearing on this interpretation. Therefore, any track that does not meet the definition of a main track is other than a main track.

Rolling Equipment is basically any on-track rolling equipment. It is not meant to include, for the purposes of this regulation, maintenance-of-way on-track equipment which is protected by other means. Also, derailment situations do not require blue signal protection.

Switch providing access: When protected equipment is standing on an entrance switch, so as to prevent other equipment from entering the track through that switch, it ceases to be an access switch. However, once the switch becomes exposed so as to permit other equipment to enter the protected track and couple to the protected cars, it becomes a switch providing access.

Train or Yard crew: FRA considers the work that was normally performed by train and yard crews under the craft boundaries which existed at the time that the first blue signal regulation was adopted in 1976, to be the only work excluded from blue signal protection. Generally, train or yard crew members are permitted to work on, under, or between railroad rolling equipment without blue signal protection in order to: set or release hand brakes; couple or uncouple air hoses and other electrical or mechanical connections; prepare rail car couplers for coupling; set wheel blocks or wheel chains; conduct air brake tests to include cutting air brake components in or out and position retaining valves; and inspect, test, install, remove or replace a rear end marking device or end of train device. FRA has long held the belief that any other inspections, tests, services or repairs that would require an individual to be on, under, or between on-track rolling equipment

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must be conducted under blue signal protection, even when performed by train or yard service employees. The train and yard crew exclusion only applies to the equipment they are called to operate. They cannot assist another crew, unless blue signal protection is established (if the task warrants protection) **or** the entire crew is involved assisting another entire crew, provided that both crews are in communication with each other and are aware of the movements to be made.

Utility Employee (UE) is not restricted to any particular craft or job title. The UE may be any railroad employee, provided that the prerequisites contained in §218.22(a) are met.

Worker means railroad employees assigned to inspect, test, repair, or service railroad rolling equipment and their components, including brake systems. Train and yard crews are generally excluded, except when assigned to perform such work on railroad rolling equipment that is not part of the train or yard movement they have been called to operate, or when they are making repairs that are not traditionally the work of train or yard crew members. The train and yard crew member exclusion is based on the rationale that working together as an operating crew, with their assigned locomotive engineer at the controls of the locomotive, they would have complete control over the movement of any rolling equipment on which they are working. However, it is the nature of the work performed that is the determining factor. If a train or yard crew member changes brake shoes, adjusts locomotive piston travel, etc., blue signal protection would be required. Train and yard crew members cannot change a knuckle without blue signal protection, unless the emergency provision of the regulation is applicable.

Railroad security forces or clerical personnel who board railroad cars for the purpose of checking lading for pilferage or vandalism, or store house employees loading or unloading cars (even when using a forklift) are not considered to be *workers* as defined in this part because they are not assigned to inspect, test, repair, or service the railroad rolling equipment. Therefore, blue signal protection is not required under the regulation. Fueling and sanding locomotives does not require blue signal protection, provided the tasks do not require the individual to go on, under, or between the locomotive.

Non-railroad employees (contractors, etc.) are not required to use blue signal protection under Federal regulations. Although many railroads require these individuals to comply with blue signal regulations as part of the conditions of their contracts, FRA cannot enforce the contractor's use of blue signal protection. However, an Inspector should advise the railroad of non-compliance when it is known that the railroad expects the contractors to comply.

Servicing, as noted in the footnote under this definition, does not include supplying cabooses, locomotives, or passenger cars with such items as ice, drinking water, tools, sanitary supplies, stationery, or flagging equipment.

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Testing does not include visual observations made by an employee positioned inside or alongside a caboose, locomotive, or passenger car. A worker involved in these specific work activities is not deemed to be in a hazardous position should the equipment inadvertently move.

Regulation:

§218.21 Scope.

This Subpart prescribes minimum requirements for the protection of railroad employees engaged in the inspection, testing, repair, and servicing of rolling equipment whose activities require them to work on, under, or between such equipment and subjects them to the danger of personal injury posed by any movement of such equipment.

Guidance:

Initially, the rationale in developing the language of this subsection was that these general work categories (inspecting, testing, repair, and servicing) usually require an employee to go on, under, or between rolling equipment. In so doing, the employee would be in close proximity to the equipment, where he/she would be vulnerable to the possibility of a serious personal injury if an unexpected movement of the equipment were to occur. However, in identifying those general work activities and positions in relation to railroad rolling equipment in such broad terms, it was inevitable that they would encompass a number of specific jobs which definitely do not expose the worker to personal injury. FRA realized the predicament, and revised the language in 1979 by inserting the word “and” in the regulatory language -

“...**and** subjects them to the danger of personal injury...”

Therefore, it is not solely the work being done (inspecting, testing, repairing, or servicing) and where the employee is positioned in relation to the equipment (on, under, or between), but additionally, whether this causes the employee to be placed in a potentially hazardous position.

Generally, non-hazardous work will be combined with work that is hazardous, and blue signal protection is required. However, there may be times when certain non-hazardous work can be isolated in such a manner that blue signal protection would not be required. As an example, equipment inspections that can be made by an employee from a position on the ground alongside the equipment does not represent a hazardous situation. Seated at the controlling locomotive and manipulating the air brake handles or throttle or setting the MU valve does not represent a hazardous situation. Testing of an air brake system, when purely visual in nature, which requires an employee to observe the position of air brake piston while standing on the ground beside the

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cars is another example of a non-hazardous situation that would not require blue signal protection. If the employee has to go under the equipment to observe the piston travel, as with many truck-mounted brake systems, blue signal protection is required.

When conducting a purely visual inspection of a locomotive, as long as the employee does not go under the locomotive, or does not step into the engine compartment, or go onto the roof of the locomotive, the employee would not be in a hazardous situation. For example, gaging wheels would require blue signal protection because the individual would be under the equipment. An employee could open engine compartment doors and look inside to inspect for oil/water leaks, exhaust leaks, check the cooling water sight glass, and check engine oil, as long as he/she does not physically step inside the engine compartment and does not do anything beyond visual checks - all without establishing blue signal protection.

Certain servicing activities can be carried out without exposure to danger. Examples of such activities would be bleeding of the air brake system on cars, oiling journal boxes, passenger coach interior and exterior cleaning not requiring the use of ladders, evacuating and recharging passenger car soil holding tanks, and supplying passenger cars with water or supplying locomotives with water and fuel by attaching a hose to an exterior outlet. Changing radios and HTD's on locomotives that use quick disconnect fittings and does not require the use of tools. In instances where sanding a locomotive can be accomplished by attaching the sanding hose to a side filler cap, without physically going on the locomotive. Similarly, certain supplying activities such as supplying locomotives and cabooses with ice, water, fusees, stationery and paper toweling can be carried out without exposure to danger. These and similar activities, when effectively confined to the specific non-hazardous work function, do not require blue signal protection.

There are certain activities that definitely call for the display of blue signals. Examples of such activities (when performed by non-train or non-yard crew members) are breaking or making air hose connections, connecting or disconnecting electric control cables between equipment, installing/removing/servicing/repair of rear end devices (markers and telemetry units), and any air brake test requiring an employee to go under, or between rolling equipment. Other examples include: replacing broken windows, changing brake shoes, activities that require the use of a ladder, electrical repairs which involve work partially or wholly within the confines of an electrical cabinet, any inspection of the undercarriage from a pit, repairing and closing doors on a car if tools are required. All these and other activities do cause the workers to position themselves in such a way that they are vulnerable to personal injury if unexpected movement of the equipment occurred. In the event a worker has to position himself/herself between the rails at the end of a car, as when changing a knuckle or air hose, blue signal protection is required. When repairs require the worker to be on, under, or between rolling equipment, then blue signals unquestionably are required. It is the function or nature of the work being performed that determines the protective provisions of the rule, **not** the craft or title of the employee.

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The blue signal regulation **does not** apply to derailment situations. Assuring protection for workers involved in such operations is the responsibility of the individual railroad in accordance with its own operating rules. Such operations are usually well coordinated, controlled operations under the direction of a wreck master and/or transportation supervisor at the scene. Requiring blue signals under these circumstances would unreasonably hamper re-railing operations. Unlike routine operations, all personnel involved in this type of work are aware of the special conditions that exists and are familiar with the necessary precautions to take when equipment moves take place.

Mechanized track maintenance operations **do not** require blue signal protection, as these operations are addressed by railroad operating rules and other regulations. Under railroad operating rules, flags of another color have been designated for this purpose, and those rules specify the exact manner in which they are to be displayed to provide protection for such operations.

Taking a track “out of service” does not provide relief to this regulation. Blue signal protection would have to be established on “out-of-service” tracks if the work requires it.

Regulation:

§218.22 Utility employee.

(a) A utility employee shall be subject to the Hours of Service Act, and the requirements for training and testing, control of alcohol and drug use, and hours of service record keeping provided for in parts 217, 219, and 228 of this chapter.

(b) A utility employee shall perform service as a member of only one train or yard crew at any given time. Service with more than one crew may be sequential, but not concurrent.

(c) A utility employee may be assigned to and serve as a member of a train or yard crew without the protection otherwise required by Subpart D of part 218 of this chapter only under the following conditions:

(1) The train or yard crew is assigned a controlling locomotive that is under the actual control of the assigned locomotive engineer of that crew;

(2) The locomotive engineer is in the cab of the controlling locomotive, or, while the locomotive is stationary be replaced in the cab by another member of the same crew;

(3) The utility employee established communication with the crew by contacting the designated crew member on arriving at the train (as defined for the purpose of this section as one or more locomotives coupled, with or without cars) and before commencing any duties with the crew.

(4) Before each utility employee commences duties, the designated crew member shall provide notice to each crew member of the presence and identity of the utility employee. Once all crew members have acknowledged this notice, the designated

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crew member shall advise the utility employee that he or she is authorized to work as part of the crew. Thereafter, communication shall be maintained in such a manner that each member of the train or yard crew understands the duties to be performed and whether those duties will cause any crew member to go on, under, or between the rolling equipment; and

(5) The utility employee is performing one or more of the following functions: set or release hand brakes; couple or uncouple air hoses and other electrical or mechanical connections; prepare rail cars for coupling; set wheel blocks or wheel chains; conduct air brake tests to include cutting air brake components in or out and position retaining valves; inspect, test, install, remove or replace a rear end marking device or end of train device. Under all other circumstances a utility employee working on, under, or between railroad rolling equipment must be provided with blue signal protection in accordance with §§218.23 through 218.30 of this part.

(d) When the utility employee has ceased all work in connection with that train and is no longer on, under, or between the equipment, the utility employee shall notify the designated crew member. The designated crew member shall then provide notice to each crew member that the utility employee is being released from the crew. Once each crew member has acknowledged the notice, the designated crew member shall then notify the utility employee that he is released from the train or yard crew.

(e) Communications required by §218.22(c)(4) and (d) shall be conducted between the utility employee and the designated crew member. This communications shall be conducted either through direct verbal contact, by radio in compliance with part 220 of this chapter, or by oral telecommunication of equivalent integrity.

(f) No more than three utility employees may be attached to one train or yard crew at any given time.

(g) Any railroad employee who is not assigned to a train or yard crew, or authorized to work with a crew under the conditions set forth by paragraph (b) of this section, is a worker required to be provided blue signal protection in accordance with §§218.23 through 218.30 of this part.

(h) Nothing in this section shall affect the alternative form of protection specified in §221.16 of this chapter with respect to inspection of rear end marking devices.

Guidance:

When an individual is working as a utility employee (UE), he/she is working as a temporary member of a specific train or yard crew. This allows the UE to be excluded from the blue signal protection requirements when performing the tasks listed in §218.22(c)(5). The UE cannot perform any other task that requires blue signal protection without first establishing the proper protection.

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As defined in §218.5, the UE is not restricted to any particular craft or job title. The UE may be any “railroad” employee, provided that the prerequisites contained in §218.22(a) are met, namely that the UE is subject to: (1) the railroad’s operating rules; (2) the Hours of Service Laws; and (3) Federal drug and alcohol regulations. If the UE is a mechanical department employee (carman, machinist, etc.), an abbreviated version of the instructions for operating rules can be given to satisfy the requirements of Part 217.

The regulation limits the assignment of the UE to only one crew at a time. This is necessary to prevent confusion as to the location and duties of that employee, and to ensure that the employee is, in reality, a member of the crew to which he/she is assigned for the duration of the assignment.

A train or yard crew member cannot become a UE and work with another train or yard crew, unless the train or yard crew he/she originally started with has completed its tour of duty or has been reconstituted as a new assignment.

When conducting inspections for compliance, regarding the use of UEs, the Inspector should monitor the following:

1. Communication between the UEs and ranking crew member. UEs and crew members are following required operating procedures when attaching to and/or detaching from the crew. Was the communication made face-to-face, by radio, telephone, or by some other telecommunications?
2. Presence of locomotive engineer, or other crew member, in the control compartment or at the controls of the controlling locomotive when the UE performs duties on the rolling equipment assigned to that train or yard crew;
3. Nature of the work performed by the UE - ensure employee does not perform duties other than those listed in the regulation that require blue signal protection. There are no restrictions on tasks the UE can perform with the crew that do not require blue signal protection;
4. No more than three UEs can be assigned to a train or yard crew at the same time;
5. UEs are not assigned to or working with more than one train or yard crew at a time;
6. Inspection of UE’s hours of service records; and
7. The UE has to be in the general vicinity of the crew. The UE could not be working at a remote site, without the locomotive and the rest of the crew nearby.

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Regulation:

§218.23 Blue signal display.

(a) Blue signals displayed in accordance with §218.25, 218.27, or 218.29 signify that workers are on, under, or between rolling equipment. When so displayed --

(1) The equipment may not be coupled to;

(2) The equipment may not be moved, except as provided for in §218.29;

(3) Other rolling equipment may not be placed on the same track so as to reduce or block the view of a blue signal, except as provided for in §218.29 (a), (b) and (c); and

(4) Rolling equipment may not pass a displayed blue signal.

(b) Blue signals must be displayed in accordance with §218.25, 218.27, or 218.29 by each craft or group of workers prior to their going on, under, or between rolling equipment and may only be removed by the same craft or group that displayed them.

Guidance:

The regulation states that blue signals may only be removed by the same craft or group that displayed them. It need not be the same individual, just the same craft or group. If a particular worker is not a part of a group, as indicated by the regulation's definition, then the individual would have to display his/her own blue signal. If a railroad chooses to adopt the policy of having different crafts or groups attach an individual disc to a common blue signal and having the last worker removing his disc also remove the common blue signal, that practice would comply with the intent of the regulation.

A frequently asked question is, "Can a supervisor remove a blue signal if the worker forgot to remove the blue signal and has gone home?" A supervisor can remove a blue signal displayed, but only if it is **known** that the workers are not on, under, or between rolling equipment and are clear of the protected equipment, and he/she is the supervisor of the same craft or group of workers.

The use of blue signals and derails by industries served by railroads as called for under Department of Labor, Occupational Safety and Health Administration (OSHA) and Hazardous Materials regulations for the protection of industry employees involved in the loading and unloading of railroad cars, **is not part of** Subpart B- Blue Signal Protection for Workmen. However, once a blue signal is displayed on tracks or on rolling equipment, regardless under whose authority that signal is displayed, railroad employees must respect the signal as though it was displayed in accordance with the requirements of this regulation. Blue signals displayed by industry employees must not be removed by railroad employees. Also, when a **railroad employee** is working on, under or between rolling equipment inside an industry or plant served by a railroad, blue signal protection must be established.

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A blue signal displayed at or near a manually operated switch providing access to the track must be displayed no farther into the track than the fouling (clearance point) of that entrance switch. Once the blue signal is displayed, there can be **NO** movement of the equipment, except as provided for in §218.29.

Regulation:

§218.24 One-person crew.

Guidance:

§218.24, the one-person crew provision, was suspended effective May 15, 1995. Railroads are not required to comply with any part of this section. During the stay, until a revised rule is issued, FRA's policy regarding single person crews (i.e., locomotive engineer working alone, such as in hostler or in helper service) is as follows:

While working on, under, or between equipment, no blue signal protection will be required for single person crews provided that: (1) the employee performs **only** those duties listed in §218.22(c)(5) on the equipment they are called to operate; and, (2) the railroad has in effect operating rules and procedures that provide for locomotive securement against movement. (OP-97-28)

Regulation:

§218.25 Workers on a main track.

When workers are on, under, or between rolling equipment on a main track:

a) A blue signal must be displayed at each end of the rolling equipment; and

(b) If the rolling equipment to be protected includes one or more locomotives, a blue signal must be attached to the controlling locomotive at a location where it is readily visible to the engineman or operator at the controls of that locomotive.

(c) When emergency repair work is to be done on, under, or between a locomotive or one or more cars coupled to a locomotive, and blue signals are not available, the engineman or operator must be notified and effective measures must be taken to protect the workers making the repairs.



Blue Signal Light in the middle of a snow covered track

Guidance:

The important thing to realize when observing blue signal protection on a main track is that the regulation does not require lined and locked switches, or the application of derails. However, blue signals must be displayed at **each end** of the rolling equipment to be protected. Ends of the equipment refers to placement of a blue flag or blue light in the knuckle or on the coupler of the car or locomotive. The Inspector should check to see if this has been done with an appropriate “blue signal.” (See “*blue signal*” definition.) The blue signal displayed at each end of the rolling equipment may be attached to the ends of the equipment, or it may be displayed on the track ahead and behind the equipment in such a manner that there is no doubt about the track and/or equipment to which it applies. If one or more locomotives are among the protected equipment, then a blue signal must **also** be attached to the controlling locomotive at a location where it is readily visible to someone seated at the controls of that locomotive. The Inspector should evaluate how visible and obvious the blue signal is to someone seated at the controls of the locomotive. This requirement is in addition to the blue signals displayed at each end of the equipment. The signal should be placed so that the operator does not have to look for it. A clamp hanging from the window sill with the blue signal positioned low on the car body of the locomotive would not comply. In other words, the signal must be immediately visible to the operator without any effort on his part. The absence of a blue signal at any one of the required locations (ahead, behind, and/or on the controlling locomotive) means that the equipment is unprotected and other than the assigned train crew, employees may not work on, under or between that equipment.

Remotely controlled switches cannot be used to provide protection on “main track.” Part 218.30 “Remotely controlled switches” references only §218.27 “Other than main track.”

Normally, there are very few locations that routinely perform work requiring blue signal protection on a main track. An exception to this is when a railroad maintains fuel and servicing facility on a main line for through trains. At a location such as this, first determine if any work is being done that requires blue signal protection. Remember that there are certain exceptions to what constitutes servicing and testing, and fueling is considered one of these exceptions. A fuel hose stretched over a track does not require blue signal protection.

The emergency provisions were intended to allow a railroad flexibility when a train is stopped on the **main track** under emergency circumstances. Under these conditions, the provision can be used when blue signals are not available, provided that the train and engine crew has full control over train movement. The provisions were not intended to be used for convenience or simply because the carrier neglected to maintain a sufficient supply of blue signals for normal use by the mechanical personnel. The “emergency provision” provides an alternative means of providing

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protection for workers whenever a train is stopped under emergency circumstances and blue signals are not available. This provision does not apply to a train that has any portion of its consist in a yard, unless there are no mechanical department employees working in the yard and there are no blue signals available.

When "emergency" repair work is to be done on, under, or between a locomotive and/or one or more cars coupled to a locomotive, and blue signals are not available, the locomotive engineer or an operator at the controls of the controlling locomotive must be notified and effective measures must be taken to protect the workers making the repairs. The emergency must occur when the train movement is being controlled by the assigned train crew. A mechanical department employee assigned to accompany a train between terminals to monitor the performance of the equipment, or accompany a dimensional load, can use the emergency provision as long as a train crew member is at the controls of the locomotive.

Regulation:

§218.27 Workers on track other than main track.

When workers are on, under, or between rolling equipment on track other than main track --

- (a) A blue signal must be displayed at or near each manually operated switch providing access to that track;
- (b) Each manually operated switch providing access to the track on which the equipment is located must be lined against movement to that track and locked with an effective locking device; and
- (c) The person in charge of the workers must have notified the operator of any remotely controlled switch that work is to be performed and have been informed by the operator that each remotely controlled switch providing access to the track on which the equipment is located has been lined against movement to that track and locked as prescribed in §218.30.
- (d) If rolling equipment requiring blue signal protection as provided for in this section is on a track equipped with one or more crossovers, both switches of each crossover must be lined against movement through the crossover toward that rolling equipment, and the switch of each crossover that provides access to the rolling equipment must be protected in accordance with the provisions of paragraphs (a) and (b), or (c) of this section.
- (e) If the rolling equipment to be protected includes one or more locomotives, a blue signal must be attached to the controlling locomotive at a location where it is readily visible to the engineman or operator at the controls of that locomotive.

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Guidance:

This is the type of blue signal protection used in train yards and sidings. It can also be used in a locomotive service track area or car shop repair area.

An appropriate blue signal (*see “blue signal” definition*) displayed at or near a manually operated switch providing access to the track, must be displayed no farther into the track than the fouling point of that entrance switch. If a car or locomotive is positioned almost to the fouling point of the entrance switch, the blue signal display can be attached to the ends of the rolling equipment. Either way, the blue signal must be displayed in such a manner that there is no doubt about the track and/or equipment to which it applies. However, if a derail is used, the blue signal must be displayed at each derail. The absence of a blue signal at any of the manually operated switches providing access to a track renders the track unprotected and workers cannot work on, under, or between equipment on that track. The absence of the blue signal at a derail also renders the track unprotected. Similarly, any unlocked derail, or manual or remotely-controlled switch providing access to the track on which equipment is standing means that the equipment on the track is unprotected and workers cannot work on, under, or between that equipment.

Rolling equipment may **not** enter or depart a protected track. Exception: Only after all work activity has ceased, and the workers have been notified to stand clear and the blue signal protection has been removed from the switch through which the equipment will move, may rolling equipment enter or depart a “protected” track. When using a derail, locked in the derailing position with the proper blue signal displayed at the derail, the protected track is the area between the locked derails. Therefore, other rolling equipment may enter and depart from that track, but **cannot** enter or depart the protected area of the track. Once blue signal protection is established, there can be **no** movement of rolling equipment within the protected area. In a situation involving a worker working a train under blue signal protection, road power could be added to the train by removing the blue signal on the head end only, thereby eliminating the need to walk to the rear. Similarly, this same worker can allow a train to depart after he removes the blue signal from the head end of the train. In both instances, work must stop while the blue signal has been removed. After the train has departed from the track, the remaining blue signal protection must be immediately removed.

When a crossover switch leads into the track on which protected equipment is standing, the switches at both ends of the crossover must be lined against entry into the protected track. The switch at the end of that crossover which connects directly to the protected track must be locked, and blue signal must be displayed at that locked switch. However, if protected equipment is standing on the switch of such a crossover, so as to block other equipment moves from entering the protected track through that crossover, the switch need not be locked or blue signal displayed.

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When workmen are engaged in work on a train with the rear portion standing on a track other than a main track, and the head end portion is on a main track, then the rear portion must be protected in accordance with § 218.27, "Workmen on track other than a main track," while the head end would be protected by a blue signal ahead of the locomotive and one attached to the controlling locomotive in accordance with § 218.25, "Workmen on main track."

If one or more locomotives are among the protected equipment, then a blue signal must be displayed on the controlling locomotive at a location where it is readily visible to someone seated at the controls of that locomotive. The Inspector should evaluate how visible and obvious the blue signal is to someone seated at the controls of the locomotive. The signal should be placed so that the operator does not have to look for it. A clamp hanging from the window sill with the blue signal positioned low on the car body of the locomotive would not comply. In other words, the signal must be immediately visible to the operator without any effort on his part. The absence of a blue signal at any one of the required locations means that the equipment is unprotected and workers may not work on, under or between that equipment.

If there is a single locomotive on one end of a yard track and a locomotive consist (with or without cars) is located on the other end of the same yard track and workers are replacing a brake shoe on the single locomotive, but no work is being performed on the other consist, the controlling locomotive of the consist and the single locomotive would both have to be blue flagged.

Regulation:

§218.29 Alternate methods of protection.

Instead of providing blue signal protection for workers in accordance with §218.27, the following methods for blue signal protection may be used:

(a) When workers are on, under, or between rolling equipment in a locomotive servicing track area:

(1) A blue signal must be displayed at or near each switch providing entrance to or departure from the area;

(2) Each switch providing entrance to or departure from the area must be lined against movement to the area and locked with an effective locking device; and

(3) A blue signal must be attached to each controlling locomotive at a location where it is readily visible to the engineman or operator at the controls of that locomotive;

(4) If the speed within this area is restricted to not more than 5 miles per hour a derail, capable of restricting access to that portion of a track within the area on which the rolling equipment is located, will fulfill the requirements of a manually operated switch in compliance with paragraph (a)(2) of this section when positioned at least 50 feet from the end of the equipment to be protected by the blue signal, when locked in a derailing position with an effective locking device, and when a blue signal is displayed at the derail;

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(5) A locomotive may be moved onto a locomotive servicing area track after the blue signal has been removed from the entrance switch to the area. However, the locomotive must be stopped short of coupling to another locomotive;

(6) A locomotive may be moved off of a locomotive servicing area track after the blue signal has been removed from the controlling locomotive to be moved and from the area departure switch;

(7) If operated by an authorized employee under the direction of the person in charge of the workers, a locomotive protected by blue signals may be repositioned within this area after the blue signal has been removed from the locomotive to be repositioned and the workers on the affected track have been notified of the movement; and

(8) Blue signal protection removed for the movement of locomotives as provided in paragraphs (a) (5) and (6) of this section must be restored immediately after the locomotive has cleared the switch.

(b) When workers are on, under, or between rolling equipment in a car shop repair track area:

(1) A blue signal must be displayed at or near each switch providing entrance to or departure from the area; and

(2) Each switch providing entrance to or departure from the area must be lined against movement to the area and locked with an effective locking device;

(3) If the speed within this area is restricted to not more than 5 miles per hour, a derail capable of restricting access to that portion of a track within the area on which the rolling equipment is located will fulfill the requirements of a manually operated switch in compliance with paragraph (a)(2) of this section when positioned at least 50 feet from the end of the equipment to be protected by the blue signal, when locked in a derailing position with an effective locking device and when a blue signal is displayed at the derail;

(4) If operated by an authorized employee under the direction of the person in charge of the workmen, a car mover may be used to reposition rolling equipment within this area after workers on the affected track have been notified of the movement.

(c) Except as provided in paragraphs (a) and (b) of this section, when workers are on, under, or between rolling equipment on any track, other than a main track:

(1) A derail capable of restricting access to that portion of the track on which such equipment is located, will fulfill the requirements of a manually operated switch when positioned no less than 150 feet from the end of such equipment; and

(2) Each derail must be locked in a derailing position with an effective locking device and a blue signal must be displayed at each derail.

(d) When emergency repair work is to be done on, under, or between a locomotive or one or more cars coupled to a locomotive, and blue signals are not available, the engineman or operator at the controls of that locomotive must be notified and effective measures must be taken to protect the workers making the repairs.

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Guidance:

This section provides a railroad with an alternate method of establishing blue signal protection for equipment occupying tracks in locomotive servicing areas and car shop repair track areas. At these locations railroad may establish blue signal protection in accordance with either §218.27, "Workers On Track Other Than Main Track," or in accordance with this section. The Inspector must know whether §218.27 or §218.29 is being used, before taking any kind of enforcement action.

Basically, §218.27 requires blue signal protection be establish for each individual track, while §218.29 permits blue signal protection to be established for the area as a whole. It provides greater flexibility for movement of equipment within, as well as to and from the area. This section also authorizes use of locked derails to fulfill the requirements of a manually operated switch on any track, other than a main track, when placed at a minimum distance of 150 feet from the end of the protected equipment. If speed is restricted to less than 5 miles per hour, then this distance may be **reduced** to no less than 50 feet when used in locomotive servicing and car shop repair track areas. The 5 mph restriction may be conveyed by a physical sign or by a written bulletin or timetable instruction. If a derail is used, it must be locked in a derailing position with an effective locking device and a blue signal must be displayed at the derail.

Blue signals must be attached to the controlling locomotive whenever workers are on, under, or between that locomotive or any rolling equipment attached to that locomotive.

A locomotive not blue flagged, within the area, can be moved without removing blue signals displayed at the entrance switches provided:

- 1) The locomotive does not impact or couple to a locomotive on which a blue signal is displayed.
- 2) The locomotive is operated by an authorized employee under the direction of the person in charge of the workers.
- 3) The workers on the affected track(s) where the movement will take place have been notified of the movement.

When locomotives are moved into and out of the locomotive servicing area, the workers **do not** have to stop work on locomotives that have a blue signal properly displayed. The blue signal protection must be immediately restored after any movement into or out of the servicing area.

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When inspecting for the adequacy of the blue signal protection in a locomotive servicing or car repair track area, first determine if workers are on, under, or between rolling equipment. Then determine if protection provided at each switch providing a means of entrance into the area is proper. Are the blue signals properly displayed? Physically test any locks, manual switches, and derails to ensure that they are secure. Next, observe the operations inside the area for compliance.

Keep in mind when using the alternate method in locomotive servicing areas, every locomotive that has a worker working on, under, or between requires a blue signal attached to each controlling locomotive where it is readily visible to the operator at the controls of that locomotive. This means that if the locomotive is by itself (not coupled to another locomotive) it would have to have a blue signal displayed at its controls. If the locomotive being worked on was coupled to three other locomotives, then one of the following applies:

- 1) If the four locomotives were pneumatically, electrically, and mechanically coupled together so that all four respond to the controls of only one locomotive (the lead unit), then only the controlling (lead) unit requires a blue signal displayed at the controls.
- 2) If the four locomotives are coupled together, but control cables and/or MU hoses are not connected so that all of the locomotives respond to one controlling locomotive, then all four locomotives would require a blue signal displayed at their controls.
- 3) If the four locomotives are coupled together, with the intent to make them a four unit consist controlled from one locomotive, FRA has determined that the brake hoses and jumper cables could be connected after the automatic brake valve is cut-out and the MU valves are placed in the trail position on three of the locomotives and the controlling locomotive (automatic brake valve cut-in) has a blue signal displayed at the controls.

Note: Unless the automatic brake valve is cut-out and the MU valve is placed in the trail position, a blue signal has to be attached to all locomotives that are capable of being used as a controlling unit before the locomotive controls cables and MU cables are connected.

Additionally, a worker cutting the automatic brake valve in or out and setting the MU valve is not considered a worker on the equipment.

Remember this provision has been made in the regulation, for using alternate methods to reposition rolling equipment within the area. However, this may only be done when all conditions of the regulation are met.

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Regulation:

§218.30 Remotely controlled switches.

(a) After the operator of the remotely controlled switches has received the notification required by §218.27(c), he must line each remotely controlled switch against movement to that track and apply an effective locking device to the lever, button, or other device controlling the switch before he may inform the employee in charge of the workers that protection has been provided.

(b) The operator may not remove the locking device unless he has been informed by the person in charge of the workers that it is safe to do so.

(c) The operator must maintain for 15 days a written record of each notification which contains the following information:

- (1) The name and craft of the employee in charge who provided the notification;
- (2) The number or other designation of the track involved;
- (3) The date and time the operator notified the employee in charge that protection had been provided in accordance with paragraph (a) of this section; and
- (4) The date and time the operator was informed that the work had been completed, and the name and craft of the employee in charge who provided this information.

Guidance:

The operator referred to in this section is the employee who has been delegated the responsibility for the proper and safe operation of the control board.

When the term *effective locking device* is used in reference to a remotely controlled switch, it need not be a padlock, but may be a plug or key, which when properly inserted into the control panel of the installation serves to immobilize the switch control lever being used to establish protection. The device must be applied in such a manner that the control lever cannot be thrown for the route into the protected track without first removing the locking device. Whatever type locking device is utilized to immobilize the switch lever or button, it must effectively prevent it from being moved. A written tag alone, attached to the lever or button, which does not prevent the lever or button from being manipulated, would not comply. Any remotely controlled switch that can be over-ridden in the field by use of a manual lever, without obtaining prior authority and taking that switch out of power, would have to be treated as a manual switch and be locked in the field.

Occasionally, a track on which blue signal protection is to be applied will have one or more switches that provide access to that track remotely controlled. If this is the case, certain measures must be taken by the carrier to insure adequate protection. When you find a location like this, check where these switches are being controlled.

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An inspection should be made of the written records the railroad is required to maintain. The written records should be inspected for their completeness as to: (1) the date and time the operator received notification of the work to be performed; (2) the name and craft of the employee in charge who provided the notification; (3) the number or other designation of the track involved; (4) the date and time the operator notified the employee in charge that protection has been provided in accordance with paragraph (a) of this section; and (5) the date and time the operator was informed that the work had been completed, and the name and craft of the employee in charge who provided this information. Such written records should be made at once and never from memory or memoranda.

Check if effective locking devices are being applied to remotely controlled switches. Traditionally, levers, buttons, and other similar devices have been used to control these switches. Mechanical locking devices, e.g., pins, clamps, sleeves, buttons or toggles would then be applied to these devices to prevent accidental removal of the protection.

Increasingly, computer keyboards are now being used in place of levers, buttons, etc., to operate remotely controlled switches. The safeguard against accidental movement of a protected switch may not be so obvious with these. Applying a padlock, plug, or key would be impractical. The generally used method is for the computer program to require one or more extra entries with the keyboard before releasing the switch for movement. If only one additional step is required, evaluate whether it forces the operator to realize he is attempting to move a switch which has had a blue signal protection applied to it. If you have a question concerning sufficient protection being provided, ask the operator to describe what step he/she must take. Can he/she provide and remove switch protection for each individual group of workers, or only for all employees at once?

Regardless of the method used to operate remotely controlled switches, remember that the intent of the locking device provision is to force the operator to make some special effort to move a protected switch. This causes him to recall that there are workers on rolling equipment on the track. Use good judgment in determining if this has been accomplished.

Inspections of remotely controlled switches will require a different reporting procedure. In most cases blue signal inspection reporting may be entered on F6180.96 together with any equipment-related inspection results. This is true for any blue signal inspections, except when remotely controlled switches are involved. The reason for this is that in most cases, control of blue signal protection is under the direct supervision of the mechanical department. Therefore, blue signal and equipment can be combined on the same report and presented to the responsible mechanical department official for handling. However, in the case of remotely controlled switches, a separate report on Form F6180.96 with its own number will be required.

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It is best to leave a copy of your report with the railroad official directly responsible for the type of condition found. Remotely controlled switches usually are under the control of the transportation department, and defects must be handled with them for correction. Equipment conditions should be handled separately with a mechanical official; therefore, the need for separate reports. Because a failure in protection of a remotely controlled switch will most likely impact mechanical personnel, the Inspector should also leave a copy of this separate report with the mechanical department supervisor.